

pads, and for subsequent re-melting of the shaped parts of solder material on the bond pads, method comprising the steps of:

5 arranging a template device, comprising a multitude of template apertures for accommodating shaped parts of solder material opposite a substrate comprising a bond pad arrangement, such that the shaped parts of solder material are associated with the individual bond pads;

10 applying laser energy to the shaped parts of solder material accommodated in the template apertures using a laser device arranged at the rear of the template device such that said laser energy is applied to the shaped parts of solder material through the template device.

22. The method according to claim 21, further comprising the steps of:

selecting shaped parts of solder material from the bulk of shaped parts of solder material accommodated in the template device wherein by filling the template apertures arranged in an aperture screen.

23. The method according to claim 21, further comprising the steps of:

filling the template apertures which are arranged in an aperture screen of the template device to select the shaped parts of solder material from a quantity of shaped parts of solder material outside the template device.

24. The method according to one claim 21, further comprising the steps of:

scanning of the template apertures using an optical scanning device for detecting shaped parts of solder material, prior to the application of laser energy to the shaped parts of solder material.

25. The method according to claim 24, wherein, application of laser energy to the shaped parts of solder material takes place via the optical scanning device.

26. The method according to claim 22, wherein, said step of filling of the template apertures arranged in the aperture screen of the template device takes place using a filling chamber movable over the aperture screen, said filling chamber being open towards the aperture screen.

27. The method according to claim 22, wherein, said step of filling of the template apertures arranged in the aperture screen of the template device takes place using a paddle-wheel device guided substantially in parallel to the surface of the aperture screen, rotating on a movement axis.

28. The method according to claim 23, wherein, said step of filling of the template apertures arranged in the aperture screen of the template device, takes place by means of pressure below atmospheric.

29. The method according to claim 21, further comprising the steps of:

exerting pressure on the shaped parts of solder material accommodated in the template apertures for establishing contact with the bond pads by applying pressure above atmospheric pressure.

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30. A device for placing a multitude of shaped parts of solder material on a bond pad arrangement of a substrate, said bond pad arrangement comprising a multitude of bond pads, and for subsequent re-melting of the shaped parts of solder material on the bond pads, the device comprising:

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a template device with a container for accommodating a quantity of shaped parts of solder material, said container comprising a container wall forming an aperture screen, for conveying shaped parts of solder material to the bond pad arrangement, the aperture screen comprising a selecting device such that shaped parts of solder material which have been singled out from the quantity of shaped parts of solder material and allocated to individual bond pads of the bond pad arrangement, are arranged so as to be exposed, in template apertures of the aperture screen, and thus can be exposed to laser energy from the rear by means of a laser device.

31. The device according to claim 30, wherein, the selecting device is movable over the aperture screen.

32. The device according to claim 31, wherein, the selecting device is a filling chamber which can be moved over the aperture screen, said filling chamber being open towards the aperture screen.

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33. The device according to claim 31, wherein, the selecting device is a paddle-wheel device movable over the aperture screen, with radially open transport compartments delimited by paddles of the paddle-wheel device.

34. The device according to claim 30, wherein, the selecting device is accommodated in a space closed by the template device with a rear wall opposite the aperture screen made transparent.

35. A device for placing a multitude of shaped parts of solder material on a bond pad arrangement of a substrate, said bond pad arrangement comprising a multitude of bond pads, and for subsequent re-melting of the shaped parts of solder material on the bond pads, the device comprising;

5 a template device with a selecting device, said template device including a housing with an aperture screen comprising a multitude of template apertures for accommodating shaped parts of solder material and a transparent rear wall, opposite the aperture screen.

36. The device according to claim 35, wherein, the diameter of the template

apertures formed in the aperture screen is smaller than the smallest diameter of the shaped parts of solder material.

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37. The device according to claim 35, wherein, the diameter of the template apertures formed in the aperture screen is larger than the largest diameter of the shaped parts of solder material, and that the distance between the aperture screen and the rear wall is smaller than the smallest diameter of the shaped parts of solder material (20).

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38. The device according to one or several of claim 30, wherein, one or both of the wall structure of the aperture screen and the sidewalk of the filling chamber, which can be moved over the aperture screen, is flexible across the area of the aperture screen.

39. The device according to claim 38, wherein, the wall structure comprises at least three layers, with a flexible compression layer sandwiched between two wear-resistant surface layers.

40. The device according to claim 39, wherein, the compression layer is made from a plastic material, and the surface layers are made from metal.

REMARKS

Claims 21 through 40 are in this application and are presented for consideration.